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ABSTRACT

Cooperative learning (CL) is reviewed as a tool for helping educationally disadvantaged or limited-English-speaking students. A review of meta analyses and literature on CL indicates its effectiveness when both group goals and individual accountability are incorporated into learning methods. The achievement gap between traditional majority students and the "new majority" (minority group students whose numbers equal or exceed the old majority) is widening, and the schools have not adopted effective practices to create positive ethnic and race relations. Basic elements of CL are positive interdependence, individual accountability, group processing, interpersonal and small group skills, and face-to-face promotive interaction. CL can help eliminate ethnocentrism and racism; and it is also valuable in socializing students, many of whom lack the social skills needed for school or work. The changing nature of society requires a shift in teaching approaches, with the emphasis on content balanced with an emphasis on process. CL will facilitate this shift even as it enhances achievement gains. Teachers will also benefit from implementation of CL approaches to interaction. A nine item list of references is included. (SLD)

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Cooperative Learning, Multicultural Functioning and Student Achievement

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Cooperative learning has been considered as the answer to many problems. It has been proposed as an alternative to ability grouping, special programs for the gifted, Chapter 1 pull-outs, special education, and non-English and limited-English language interactions. Cooperative learning has been given the perspective of the tool to introduce critical thinking skills and ensuring that students learn the basic skills, of mainstreaming academically handicapped students, of immersing language deficient students and giving these students the necessary skills to survive in an increasingly interdependent society. And lately, cooperative learning has been utilized as a major component of limited language students who come from a broad spectrum of social and racial backgrounds to work up to the expectations of their new schools and unfamiliar society.

As classroom teachers face the challenges of demographic changes, they find the reshaping of the profile of the American student population. LEP students remarkably stand out in California and through the Southwest because of their cultural diversity and their rapidly increasing numbers. Spanish speaking youngsters make up the largest single LEP language group in California. Many of these students face extraordinary barriers to achieving the high levels of literacy that would allow them to become fully enfranchised

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members of our society, or limited proficiency in English has risen by more than 250% in the past decade.

In cooperative learning groups, students may be grouped accordingly on the basis of their achievement on a single subject and not mainly by general achievement or ability level thereby reducing the labeling effect of permanent grouping:

Standardized tests results document a consistent lag in achievement scores of Hispanic students. English-fluent Hispanics score the lowest on the CAP's assessment test of all language minority groups at the elementary level. In high school, 45% of Hispanic youth who enter grade nine do not graduate.

Research indicates, according to Webb in his study on student interaction and learning in small groups, that cooperative learning groups attain achievement only if the two essential conditions are provided. First, the group must realize that they have a group goal; that the group earns the certificate or bonus points through group effort; and that everything each must do will contribute to a team effort. Second, achievement can be assured if the group realizes individual accountability. Each individual must contribute to the team effort, thereby eliminating free loaders or free riders. Without group goals, students are not likely to engage in the elaborate explanations that have been found to be essential to the achievement effects of cooperative learning. Further, group goals may help students overcome

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their reluctance to ask for help or provide help to one another, that is, without an overriding group goal, they may be embarrassed to ask for or offer help. In addition, without individual accountability, one or two group members may do all the work, group members perceived to be low achievers may be ignored if they contribute ideas or ask for help.

A review of cooperative learning literature by Slavin in cooperative learning and student achievement shows the success of cooperative learning in increasing student achievement depends substantially on the provision of group goals and individual accountability. Methods that incorporate group goals and individual accountability include Student Team Achievement Divisions (Slavin 1986), Teams-Games-Tournament (DeVries and Slavin 1978), Cooperative Integrated Reading and Composition (Stevens et al), Team Assisted Individualization-Mathematics (Slavin 1978).

Those cooperative learning methods that incorporated both group goals and individual accountability are considerably more effective than other methods. The misconception that all cooperative learning are equally effective can perhaps be attributed to a meta-analysis by Johnson and colleagues that claimed that 122 studies supported the effectiveness of cooperative learning in all its forms. Obviously, individuals score better when they can give each other answers than when they work in isolation, but they may or may not learn more from the experience.

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Cooperative learning in any form is good but may not assure a miraculous improvement in student achievement. Regardless of its effect on student achievement, cooperative learning has many positive effects, for example, on self-esteem, intergroup relations, and the ability to work with others. When schools use cooperative learning with the primary intention of increasing student achievement, they must take research into account. There is no reason to expect that if teachers simply allow students to work together or reward them based on a simple group product or task, they will learn more than will students taught traditionally. Future research may identify other forms of cooperative learning that do not require group goals and individual accountability, but schools that use such programs now must do so with a clear understanding that, at present, no programs provide promises that they will increase student achievement.

(chart on student achievement comparison here)

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Data on achievement effects of various methods from cooperative learning literature indicating success of cooperative learning strategies depend primarily on the provision of group goals and individual accountability (Slavin 1988). Without group goals, students are not likely to engage in the elaborate explanations that have been found to be essential to the achievement effects of cooperative learning (Webb 1988).

1. The Achievement Gap

Johnson and Johnson (1981) conducted a meta analysis on 122 achievement-related studies. Overall their conclusion was that cooperative learning promotes higher achievement than competitive and individualistic learning structures across all age levels, subject areas, and almost all tasks. Slavin (1983) analyzed 46 controlled research studies which were conducted for an extended time in regular elementary and secondary classrooms. Of the studies, 63% showed superior outcomes for cooperative learning, 33% showed no differences, and only 4% showed higher achievement for the traditional comparison groups. Almost all (89%) of the studies which used group rewards for individual achievement (individual accountability) showed achievement gains. When individual accountability was absent, achievement was about the same as in comparison classrooms. The lowest achieving students and minority students in general benefit most, but the benefit obtained for the lower achievers is not bought at the expense of the higher achievers; the high achieving students

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generally perform as well or better in cooperative classrooms than they do in traditional classrooms.

Drop-out/Push-out

In the last twenty years, we have seen a basic transformation of our demographics--a transformation which in many places will make us redefine our descriptors for students. This transformation is quite marked in the southwestern states, but is being felt in other parts of the United States as well. In California, over 51% of the state is the "minority". Hispanics make the single largest "minority group" in California. Our minority has become the majority; we need to redefine our terms. And the New Majority is about to have a tremendous impact on public education.

The new majority does not come to school with the same values and background as did the old majority. Non-white students are not responding well to traditional educational structures. We have across the United States a "majority-minority progressive school achievement gap". Each year non-white students fall further behind white students while there is little or no difference in achievement scores at or near entry to school. By the end of elementary school, non-white students fall further behind white students in math and a full grade behind in reading. By the end of the junior high school, the gap has doubled so that white students score a full grade higher in math and two full grades higher in reading. Beyond then, it is impossible to get accurate

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comparison figures because of differential drop-out rates-- non-white students begin dropping out of the educational pipeline much earlier than do white students.

The reason for the poor record of schools in educating and holding nonwhite students has not been established. One plausible explanation is the structural bias hypothesis. In structures, because they rely heavily on competitive task and reward structures, provide a bias in favor of the achievement and values of majority students who are generally more competitive in their social orientation than are majority students, and cooperative students achieve better and feel better about themselves and school in less competitive classrooms.

2. Ethnic Relations

Our changing demography means increased racial diversity. Our schools, however, have not adopted effective practices to create positive race relations. Our courts have mandated desegregation, but within our classrooms students segregate themselves along race lines.

As with the school achievement problem, the problem of poor race-relations among students is progressive: each school year students choose fewer friends outside their own ethnic or cultural group. At early elementary school, children work easily in mixed racial groups, but by the end elementary school they begin to segregate themselves along race lines. Racial divisions and tensions increase through middle school, culminating by high school in students

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isolated from those in other racial groups. Whether or not there is the appearance of racial gangs, there is racial tension. Students are generally prepared by our schools to work well in a racially integrated, democratic society.

Numerous studies now indicate that progressive deterioration of race-relations among students is not inevitable. In classrooms which use integrated student learning teams, positive race relations among students increases--students choose more friends from other races, and interact in a more integrated pattern.

Unless there is a change in our educational practices, nonwhite student populations and increased racial diversity will result in two crises within schools: (1) a failure to hold and educate most students; and (2) increased racial tension and segregation along race lines among students. We are failing to educate our nonwhite students. As they become our new majority, our schools will become elitist, effective for only the white minority of our population. If we continue along our present path we are likely to experience an achievement crises the likes of which we have not yet imagined.

By the year 2000, Hispanics will comprise the largest single segment of school-aged children in California and through the Southwest. Presently, almost half of all Hispanic students drop out of formal education before they finish high school and less than 10% finish college. Thus we are facing a future population far less educated than the

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present population. This prospect is especially frightening given the increased educational demands of our future high-technology oriented economy. We are moving simultaneously toward a greater need for higher education and a population in which higher education will be less common.

The potential for a race-relations crisis also is frightening. Increased racial diversity in the absence of programs which promote positive cross-race relations could be associated with race-relation problems so severe that they could threaten the fabric of our democracy.

Cooperative learning reduces and eventually eliminates ethnocentrism, or the feeling of racial superiority over people of a different racial group and consequently reduces anomie among other students who feel inferior.

3. Socialization: Historical Departure

Students today generally do not come to school with the same prosocial values which once were common. Students are not as respectful, careful, helpful, or cooperative as they were some twenty years ago. The loss of prosocial values and behaviors among students is a result of a number of converging economic and social factors.

Families today are mobile, cutting children away from stabilizing influences of enduring neighborhood and community support systems. The two-income family has become an economic necessity and as mothers leave home, children spend less time in the company of the person most concerned about their positive development. Because families are small and

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nonextended, children grow up having less contact with older siblings and grandparents--older caring people who once had a positive impact on social development.

Children now spend more time viewing television than they do in school or any other single daily activity. There are three problems with television as a substitute socializer:

1. The content of television programs often provides a very poor model for social development. More violent acts per minute are portrayed on children's TV programs than at any other time.
2. When the television is on, the probability is decreased that family members will interact in ways likely to increase positive social development. Television viewing is a very individualistic endeavor. As family members orient toward the television rather than each other, opportunities are lost for children to learn valuable social interaction and communication skills.
3. A tremendous fortune goes into television advertising, all designed to communicate a fundamental message; if you are unhappy, you can solve that problem by purchasing a product. Our youth are taught by television that the way to be more attractive is to buy a better deodorant. We have yet to see an advertisement for increasing one's communication or conflict resolution skills.

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Television is a very poor substitute for caring family interaction.

These changing family structures and socialization practices have resulted in students who lack social skills and attachments. The students of today do not know how to get along well with each other. They care less for each other and themselves.

The need for a positive socialization program in schools is indicated also by a variety of statistics. Suicide rates among our students have climbed drastically in the last twenty years. Among an average group of 640 high school students this year, one will commit suicide, then will make a serious attempt to do so, and 100 will contemplate on doing so. Crimes against persons and property in school are at an unprecedented rate. Schools must devote substantial resources to repair vandalism. Some have been forced to hire security forces. Many students leave today's schools without the social skills necessary to hold a job. A large study examining the reasons for job loss among first-time employees revealed that the most common cause of losing a job--far more common than job related skills--was lack of social skills. Today, students finish their education unprepared for the social demands of our modern economy.

Schools must pick up the job of socializing students in the values of caring, sharing, and helping. If exclusively traditional classroom structures are used, children become more competitive; if cooperative classroom structures are

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used, children become more cooperative. And we must choose some type of classroom structure! The only question is not if but how we are going to impact on the social development of our students.

Presently, schools rely almost exclusively on competitive and individualistic classroom structures. The ethnographic research reveals that teachers do about 80% of the talking in most classrooms; students are expected to passively orient to the teacher. They literally have little or no say regarding what and how to study. It is remarkable that a nation which prides itself on democracy has settled on an educational system which effectively socializes its youth to be passive participants in an autocracy.

4. Economic Trends

We now have a people-oriented economy. At the turn of the century, more than one-third of the total labor force in this country was engaged in farming. Now less than 3 percent of the work force are farmers. And in the last thirty years, there has been another shift which the sociologist Daniel Bell calls it "post-industrial age." A nation of farmers turned industrialists and laborers. But almost without noticing in the last thirty years, Americans have again transformed their economic base. We are not a nation of farmers as we once were, we are not a nation of manufacturers and laborers as we most recently were, we are now a nation of professionals. Now, more than two-thirds of the workforce deals primarily with information and/or other

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people. We have become a nation of secretaries, clerks, teachers, accountants, and managers. And the trend is continuing. Of the two million new jobs created in the 70s, 5% were in manufacturing and almost 90% were in information, knowledge, or service. Legal services, not apparel, are now New York City's leading export. The nation's work force grew 18% in the 70s but the number of administrators and managers about 60%.

5. Need for flexibility, communication, higher level thinking skills:

The radical transformation of our economic and information base has very serious implications for education. If we are to be successful educators, we must look beyond scores on narrowly defined achievement tests, we are now called upon to prepare our students for a different world, including different kinds of skills, if they are to be successful.

Because of the rapid change rate in our information base, the content we teach our children will be outdated by the time they get to high school. We must make a radical shift in our approach to teaching, we must balance our emphasis on content with an emphasis on process. Students in the future will more and more often need to know how to find out and how to produce knowledge; they will less often be called upon to draw from a stable storehouse of knowledge; we must teach our students not just what science knows but how it knows.

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The very rapid change rate in our economic base means we must prepare our students to be flexible--to be prepared to work under a wide range of economic and social task and reward structures. They must learn not only how to be competitive, cooperative, and or individualistic as task and reward structures demand, but also they must learn the skills associated with transforming existing task and reward structures, not just responding to predetermined structures. Increasingly, economic success at both the individual and company levels, will come by transforming competitive task and reward structures to cooperative structures.

Schools must prepare their students for a social and economic world which is changing so fast that is relatively unpredictable. However, in this rapidly changing, high-technology, management/information -oriented economic world of the future, there will be a premium placed on individuals with a variety of social skills to succeed, students of today must learn to communicate and work well with others and within the full range of social situations, especially within situations involving fluid social structures, human diversity, and interdependence.

6. Cultural Democracy

We need cooperative learning experiences in our classrooms because many traditional socialization practices are now absent. Students no longer come to school with an established caring and cooperative social orientation. Traditional competitive classroom structures contribute to

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this socialization void. Thus, students are left ill-prepared for a world which increasingly demands highly developed social skills to deal with increasing economic and social interdependence.

We need cooperative learning if we are to preserve democracy. Exclusive use of autocratic, teacher dominated classroom structures leaves students unprepared for participation in a democratic society. Democracy is not nurtured by a system which fosters racial cleavage, educates only an elite group, models autocratic decision making, and expects passive obedience among pupils. Cooperative, interdependent educational experiences in our classrooms are necessary if we hope to make possible the democratic ideal of informed and equal participation.

7. Achievement Gains

The learning task in most cooperative learning methods includes more comprehensible input, more opportunity for students to generate output, greater frequency and variety of practice, more time on task, greater task structure and clarity, and the subdivision of the learning unit into plasterable parts. All of these features may contribute to the achievement gains observed.

The rewards for learning in cooperative classrooms are more frequent and immediate than in the traditional format: peers appreciate progress by the students around them because it contributes to the team score. That the rewards are peer-based probably especially important; for many students, peer

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approval is the greatest reward possible. The cooperative learning techniques often include techniques for rewarding improvement, and methods to insure that rewards are equally probable for students across the range of abilities. It is also very important that rewards are group based; some probably very important that rewards are group-based; some students may try harder to do well for their team than they would for themselves alone.

Teachers in cooperative classrooms are freed from responsibility of always lecturing and directing. They can become consultants and gravitate to those students who can benefit most from their attention. Further, in the properly managed cooperative learning classroom, teachers are freed from many of the problems of management inherent in keeping most students quiet most of the time. In cooperative classrooms students are allowed to do what they most want to do--communicate with their peers, and teachers are not forced to fight the natural tendencies of their pupils. The teacher in the cooperative learning classroom is on the same side as the students, serving not to damn up their natural expressiveness, but rather to channel it in positive directions.

Students in cooperative teams are more active, self-directing, and expressive, all of which may be associated with achievement gains. Students take direct responsibility for teaching each other and receiving help from each other. There is structural support for peer tutoring and mutual

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support, so peer norms for achievement emerge. Importantly, students are often given differentiated roles so that students of different ability have relatively equal status within their groups.

The cooperative classroom structure is more compatible with the social values of minority and other cooperative students. Students who value helping and sharing will find achievement rewarding in a cooperative classroom whereas they will have little motivation to achieve if achievement is associated only with pains for themselves. Considerable research demonstrates that minority students are relatively more cooperative than majority students in their social orientation. Thus, the particularly strong gains of minority students in cooperative classrooms may be due to the compatibility of the classroom structure with the individual social values of minority students. The choice of exclusively competitive and individualistic classroom structures may bias academic and social outcomes against the achievement of minority students.

Basic Elements of Cooperative Learning

1. Positive Interdependence

Students perceive that they need each other in order to complete the group's task ("sink or swim together").

Teachers may structure positive interdependence by establishing mutual goals (learn and make sure all other group members learn), joint rewards (if all group members achieve above the criteria, each will receive bonus points),

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shared resources (one paper for each group or each member receives part of the required information), and assigned roles (summarizer, encourager of participation, elaborator).

2. Individual Accountability

Each student's performance is frequently assessed and the results are given to the group and the individual. Teachers may structure individual accountability by giving an individual test to each student or randomly selecting one group member to give the answer.

3. Group Processing

Groups need specific time to discuss how well they are achieving their goals and maintaining effective working relationships among members. Teachers structure group processing by assigning such tasks as (a) list at least three member actions that helped the group be successful and (b) list one action that could be added to make the group even more successful tomorrow. Teachers also monitor the groups and give feedback on how well the groups are working together to the groups and the class as a whole.

4. Interpersonal and Small Group Skills

Groups cannot function effectively if students do not have and use the needed social skills. Teachers teach these skills as purposefully and precisely as academic skills. Collaborative skills include leadership, decision making, trust building, communication, and conflict-management skills.

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5. Face to Face Promotive Interaction

Students promote each other's learning by helping, sharing, and encouraging efforts to learn. Students explain, discuss, and teach what they know to classmates. Teachers structure the groups so that students sit knee-to-knee and talk through each aspect of the assignment.

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